DESCRIPTION OF A NEW GENUS AND SPECIES OF LARVAL TROMBICULID MITE FROM NEW GUINEA

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SUMMARY

A new genus and species of Trombiculid mite, *Babiangia bulbifera* n. gen., n. sp., is described from New Guinea. One specimen was captured free on the forest floor, but 11 specimens were taken from a single small skink, *Lygosoma* (*Homolepida*) *forbesii*. The engorged specimens parasitic on the lizard were parasitic beneath the body scales, an unusual form of parasitization for a Trombiculid mite on a lizard. The engorged larvae showed a general convergence in body shape towards that of the Pterygosomid mites, which are obligatory parasites of lizards. The morphological affinities and biology of *Babiangia bulbifera* are discussed.

In this paper a new genus and species of larval Trombiculid mite from New Guinea is described.

Babiangia n. gen.

Definition—Dorsal scutum quadrangular, broader than long with two sensillary setae placed anteriorly; with five non-sensillary setae, an anterior median seta, two anterolateral and two posterolateral setae. Dorsal scutum extends posteriorly beyond the posterolateral setae. Palpal claw bifurcate. Cheliceral fang (digit) simple, without accessory teeth. Galeal seta simple. Eyes two on each side, the posterior eye the larger. Posterior ventral setae of abdomen with expanded bulbous bases. All legs with seven segments (including coxa, basi- and telo-femur. Empodium of tarsi thickened, equal to the tarsal claws. No whip-like setae on legs. When engorged the larva is of Pterygosomid facies.

Babiangia bulbifera n. sp.

Fig. 1 - 3

Description of Larva—Colour light pink. Length (including mouthparts) of unengorged type specimen 255μ, width 175μ (engorged specimens measure 300μ long by 350μ wide). Shape roughly globular when unengorged. Engorged specimens are flattened dorsoventrally, and then of Pterygosomid facies, with a distinct posterior notch (fig. 3 shows a specimen in which the posterior notch is not a marked feature). Dorsal scutum quadrangular, wider than long, 72μ long by 97μ wide, widest anteriorly, with sides almost straight. Anterior edge slightly concave, anterolateral corners flattened, lateral sides straight except for a slight convexity in the region of the posterolateral non-sensillary seta. Shield with two sensillary setae, ciliated in their distal halves, 69μ long, arising toward the anterolateral corners of the shield. Inter-sensillary distance 72μ. Scutal non-sensillary setae slender, pointed, faintly ciliated distally, the anterolateral arising as shown at the junction of the short anterolateral border with the lateral border of the shield, 37μ long. Anterior median seta similar, 54μ long, arising a short distance (9μ) behind the middle of the anterior border. Posterolateral non-sensillary setae similar but very slightly swollen at proximal end, 29μ long, arising a little behind the middle of the lateral border of the shield, close to the edge, which is there a little convex. The shield shows the normal slight porosity.

Standard scutal data for the type specimen are (in micra):

AW	PW	SB	ASB	PSB	SD	A-P	AM	AL	PL	Sens.
95	72	72	18	60	78	34	54	37	29	69

Eyes two on each side, mounted on a distinct shield. In unengorged specimens the eye-shield is close to the lateral border of the scutum. The posterior eye is considerably larger than the anterior.

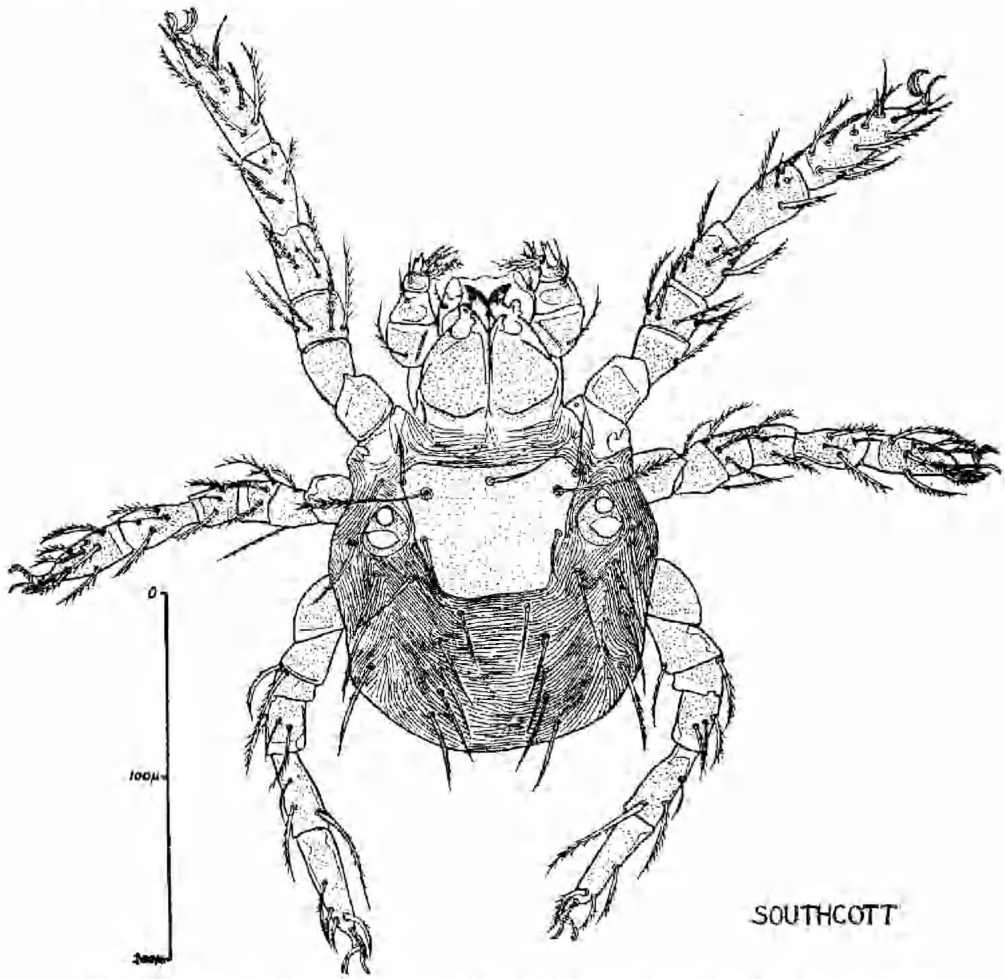

Fig. 1 *Babiangia bulbifera* n. gen., n. sp. Dorsal view, entire, unengorged.

Dorsum of abdomen with 20 setae, long, pointed, slightly thickened in their proximal halves, ciliated, 33 - 63μ long, arranged as figured.

Ventral abdominal surface: a pair of pointed ciliated setae, 26μ long, between the fused coxae I and II; a similar pair 21μ long between coxae III. Behind coxae III and anterior to the anus is a group of pointed ciliated setae with bulbous bases, 25 - 27μ long. Lateral to the anus are four long strong ciliated setae, thickened proximally, medial pair 47μ long, lateral pair 60μ long.

Legs of normal length, leg I 295μ long, II 245μ, III 295μ (all lengths including coxae and claws). Coxae normal, as figured. Each coxa with a single long curved pointed ciliated seta; that on I arises towards the posterolateral angle, is 46μ long; on II arises close to the posterolateral angle, 35μ long; on III arises

near the anterolateral angle, 63μ long. Chaetotaxy of legs as figured. Setae of legs mostly strong and heavily ciliated. No long whip-like setae on legs. Metatarsus I 48μ long. On metatarsus III, near its distal end, is a long strong tapering pointed ciliated seta, 53μ long, with a bulbous proximal part. Tarsus I and II with the normal solenoidal spine, not present on III. On tarsus III the claws are reinforced by a strong curved ciliated seta arising distally on its posterior aspect. On all tarsi the empodium is thickened and is as strong as the claws. Tarsus I 76μ long by 24μ high.

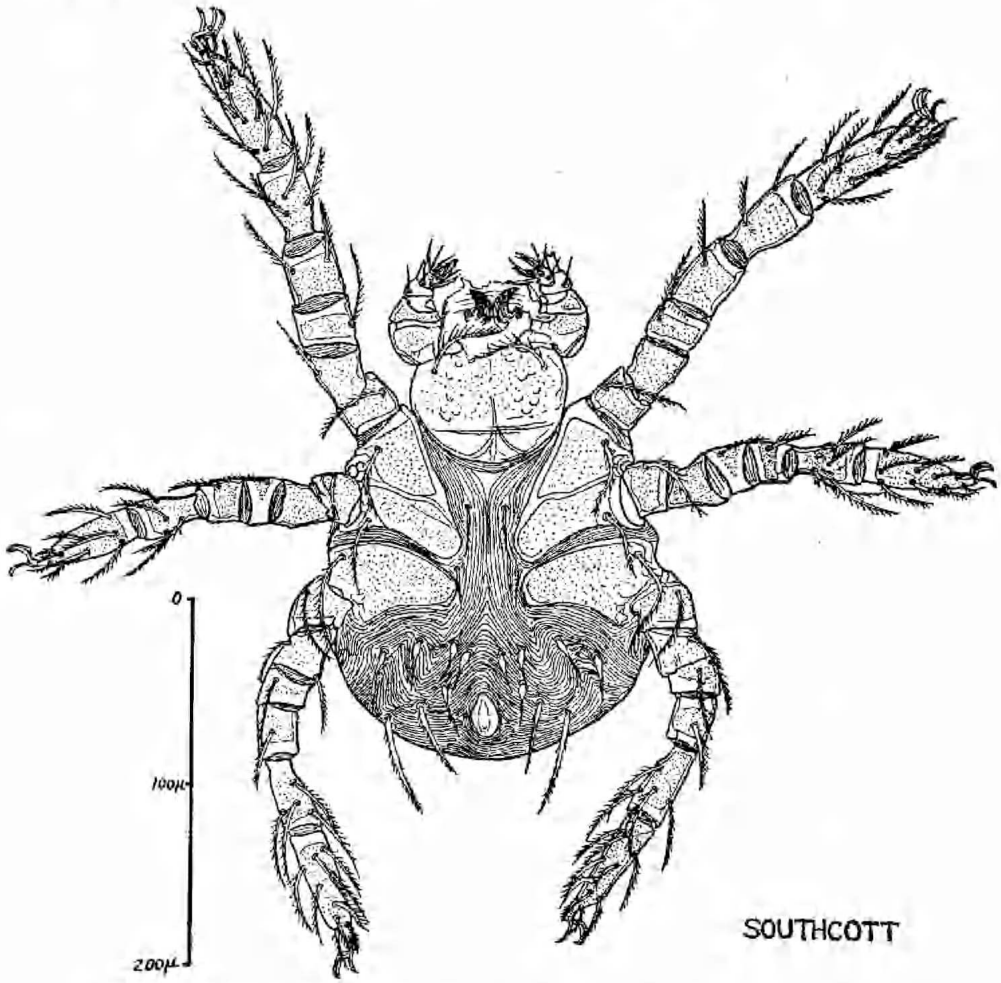

Fig. 2 *Babiangia bulbifera* n. gen., n. sp. Ventral view, entire, unengorged.

Chelicerae and palpi stout and compact. Cheliceral digit strong, curved, simple, without apical cap. Galeal seta short simple curved pointed, 15μ long. Seta on basis capituli long, strongly and unilaterally ciliated, 40μ long. Palpi as figured. Palpal femur, genu, tibia, tarsus, with 1,1,3,8 setae respectively. Femoral seta ciliated, genual seta simple, tibial setae simple. Claw of palpal tibia bifurcate, the axial prong being internal.

Locality—Babiang, Aitape region of New Guinea. (1) a single specimen, Type, free, unengorged, from the rain forest floor, 22 December 1944 (R.V.S.) (ACB 582). (2) 11 specimens parasitic under the body scales of a lizard (*Lygo-*

soma (*Homolepida*) *forbesii?*) (identified by J. R. Kinghorn, Australian Museum), same situation, 24 December 1944 (R.V.S.) (ACB 258 A-K). (All specimens in author's collection.)

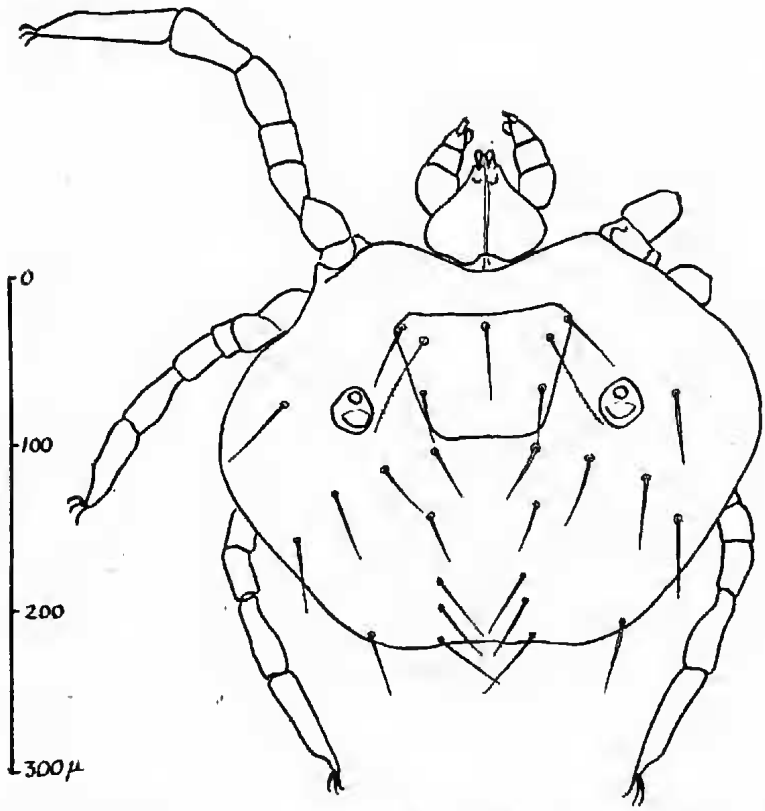

Fig. 3 *Babiangia bulbifera*, n. gen., n. sp. Dorsal view of an engorged specimen.

DISCUSSION ON GENERIC CLASSIFICATION

In keys offered in standard classifications of the family Trombiculidae, *e.g.*, those of Wharton *et al.* (1951) and Womersley (1952) this form would be classified as *Trombicula*. Structurally *Babiangia* differs from *Trombicula* in the shape and chaetotaxy of the dorsal scutum, and in having the posterior eye larger than the anterior. *Babiangia* has a resemblance to the genus *Novotrombicula* Womersley and Kohls 1947, having the dorsal scutum similarly produced posteriorly, but in the latter genus the shield so extended takes in two of the dorsal abdominal setae. *Babiangia* differs also in having the empodium thickened and similar to the claws; in *Novotrombicula* and normally in *Trombicula* the empodium is long and slender.

DISCUSSION ON BIOLOGY

The specimens of *Babiangia bulbifera* taken parasitic on the lizard appeared to show a good deal of adaptation to their host. The specimens were completely hidden under the scales, and were only found because it was noticed that some of the scales of the trunk and tail showed a little tenting, and that there was a slight gap under their free edge. The flattening of the body of the mite, and

general resemblance to the shape of the Pterygosomid mites, in the engorged specimens is remarkable, showing a strong convergence. Parasitization of lizards and other reptiles by Trombiculid mites is well known, but mostly the reptile is merely one of a number of possible hosts, no particular adaptation being shown, and the Trombiculids are not found under scales but clustered as is normal in mammals and birds on some suitable soft patch of skin, *e.g.*, in the axillae, groins and external auditory meati, with the bodies of the mites projecting free above the surface (Michener 1946 a and b, Southcott 1947, Hyland 1951).

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